

ABSTRACT OF THE DISCLOSURE

An amplitude adjustment device such as an amplitude compression device and amplitude expansion device is basically configured by a PWM modulator, a demodulator and an amplitude detector. Herein, the PWM modulator effects pulse-width modulation on an input signal to produce a pulse-width modulated signal, which is demodulated by the demodulator to produce an output signal. In addition, the amplitude detector detects an amplitude of a demodulated signal or an amplitude of the input signal to produce a control signal. A modulation factor of the pulse-width modulation is adjusted based on the control signal. In the case of the amplitude compression device, an input/output gain is changed inversely proportional to the amplitude of the input signal or amplitude of the output signal. Thus, it is possible to compress a dynamic range with respect to input/output characteristics. A full-wave rectifier, applicable to the amplitude adjustment device, is mainly configured by an inversion amplifier, an amplifier and an output section. Herein, the inversion amplifier amplifies an input signal with a gain of "-1", while the amplifier amplifies it with a gain of "1". Outputs of the amplifiers differ from each other in phases by 180°. The output section produces a full-wave rectified signal based on the outputs of the amplifiers. Incidentally, all of the amplifiers and output section are configured using field-effect transistors without using diodes being externally connected. Hence, it is possible to manufacture the full-wave rectifier in a form of an IC in accordance with the MOS process with ease.